

REMARKS

In the Office Action, claims 1, 3-4, 9-11, and 20-23 were rejected under 35 U.S.C. §102; claims 5-8, 12-14, 24-25, 35 and 37 were rejected under 35 U.S.C. §103. Claims 3 and 4 are amended herein. Claims 1, 2 and 9 have been cancelled without prejudice or disclaimer. Claims 15-19, 26-34 and 36 are withdrawn from consideration due to a previous restriction requirement. Applicants believe that the rejections are improper or have been overcome for at least the reasons below.

In the Office Action, claims 1, 3-4, 9-11, and 20-23 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,147,451 to Shibata et al. ("Shibata"). Of the pending claims at issue, claims 3, 9, 10 and 20 are the sole independent claims.

Amended claim 3 recites a light-emitting device including: a light-emitting device main body having a light output surface, and a transparent electrode formed in a size larger than a size of the light output surface so as to cover the light output surface, wherein the light-emitting device main body is provided in the form of a chip that includes a plurality of semiconductor layers, wherein the transparent electrode is connected directly to a whole area of the light output surface, and wherein the transparent electrode is connected to the light output surface *through a contact layer, wherein a size of the contact layer is minute relative to the size of the light output surface*. Similarly, amended claims 9 and 10 recite, at least in part, wherein the transparent electrode is connected to the light output surface through a contact layer, wherein a size of the contact layer is minute relative to the size of the light output surface. Claim 20 recites, a light-emitting apparatus including a light-emitting device comprising a light-emitting device main body having a light output surface and transferred, and a *contact metal formed on the light output surface*; a wiring layer formed outside the region of the light output surface; and a *transparent electrode so formed as to cover the contact metal* and the wiring layer.

In the presently claimed invention, the contact layer is referred to in the examples as a conductive metal contact layer. (See, Specification, pg. 9, lines 5-11). Moreover, the contact metal is preferably formed of a noble metal. (See, Id.). With the outermost surface of the contact metal formed of a noble metal, it is possible to prevent oxidation of the contact metal in the region of contact with the transparent electrode. (See, Id.). This makes it possible to prevent

the problem where the contact metal might be deteriorated due to corrosion with the result of an increase in electric resistance thereof. (See, *Id.*).

Shibata generally relates to an organic electroluminescent display device including a pixel array composed of an organic electroluminescent device provided on a semiconductor. A driving integrated circuit for driving the organic electroluminescent device is formed in the periphery of the pixel array, which is integrated with the integrated circuit. (See, Shibata, Abstract). Applicants believe that Shibata is distinguishable from independent claims 3, 9, 10 and 20 for a number of reasons. For example, Shibata fails to provide wherein a transparent electrode is connected to the light output surface *through a contact layer or contact metal*, as recited in amended claims 3, 9 and 10 and independent claim 20, respectively. The Office Action alleges that Shibata (Fig. 9 and col. 1, lines 32-43) discloses that “the transparent electrode 24 is connected to the light output surface 23 through a contact layer,” but also refers to the alleged contact layer as reference numeral 23. (See, Office Action, pg. 3). Indeed, Shibata refers to reference numeral 23 as a *transparent electrode* and not as a contact layer, much less a contact layer having a size that is *minute* relative to the size of the light output surface, as recited in amended claim 3. Moreover, the passage cited by the Examiner on page three of the Office Action (see, col. 1, lines 32-43) also does not appear to refer to any contact layer. Rather, this passage appears to only provide that certain organic materials may be used for the hole transporting layer, the electron transporting layer and the light emitting layer. (See, Shibata, col. 1, lines 32-35). In addition, Shibata does not disclose using a conductive metal or a noble for the alleged contact layer, as discussed above. (See, Specification, pg. 9, lines 5-11). Shibata only provides that the *electrode* may be made from a noble metal. (See, Shibata, col. 1, lines 26-27).

Accordingly, Applicants respectfully request that the 35 U.S.C. §102(b) rejections of claims 1, 3-4, 9-11, and 20-23 be withdrawn.

The Office Action rejected claims 6-8, 12-13 and 24-25 under 35 U.S.C. §103(a) as allegedly obvious over Shibata in view of U.S. Patent No. 5,454,716 to Yashiki et al. (“Yahiki”). At the outset, claims 6-8 depend from amended independent claim 3, claims 12-13 depend from amended independent claim 9, and claims 24-25 depend from independent claim 20, and are believed to be allowable for the reasons given above and the additional patentable elements recited therein. Indeed, Yashiki is merely relied on for the purported teachings of: (a) forming a

conductive layer by coating the substrate with the layer of heat-cured resin; (b) conductive particles scattering light emitted from the light output surface of diffusing the light from the transparent electrode; (c) where the conductive particles include ITO; and (d) where the protective resin layer and the diffusion-preventing layer are formed to cover the transparent electrode to an exterior of the device.

The Office Action rejected claims 5, 14, 35 and 37 under 35 U.S.C. §103(a) as being obvious over Shibata in view of Yashiki and U.S. Patent No. 6,900,473 to Yoshitake et al. (“Yoshitake”). Of the pending claims at issue, claims 14 and 35 are the sole independent claims.

Independent claim 14 recites an image display apparatus comprising an image display surface formed by arranging a plurality of light-emitting devices on an apparatus substrate, each of the light-emitting devices comprising a light-emitting device main body having a light output surface and transferred, and a transparent electrode formed in a size larger than a size of the light output surface so as to cover the light output surface and connected to whole area of the light output surface *through a contact layer, wherein a size of the contact layer is less than the size of the light output surface.*

Independent claim 35 relates to an image display apparatus comprising an image display surface formed by arranging a plurality of light-emitting apparatuses on an apparatus substrate, each of the light-emitting apparatuses comprising a plurality of light-emitting devices each of which comprises a light-emitting device main body having light output surface and transferred, and a *contact metal formed on the light output surface*; a wiring layer formed outside the regions of the light output surfaces; and a *transparent electrode so formed as to cover the contact metals and the wiring layer, wherein a size of the contact metal is less than a size of the light output surface.*

Applicants respectfully submit that the cited art fails to disclose all of the elements recited in claims 5, 14, 35 and 37. Yoshitake is cited for the purported teaching of a “contact layer 36, which is less than the size of the light output surface 37.” (See, Office Action, pg. 6 referring to Yoshitake Fig. 1). Applicants point out that reference numerals 36 and 37 appear to relate to Fig. 5, rather than Fig. 1. In Fig. 5, the n-side GaAs contact layer 36 appears to be formed on top of a cladding layer 34 having conical protrusions. Accordingly, the contact layer 36 takes on the same general shape or profile of the conical protrusions. (See, Yoshitake, Fig. 5).

The ITO film 37 is then formed on top of the contact layer 36 and also takes on the shape of the conical protrusions. However, as illustrated in Fig. 5, the size of the contact layer 36 at least appears *to be the same size* as the ITO film 37 and the underlying cladding layer (i.e., each layer covers the whole of the layer beneath it). Accordingly, Yoshitake fails to provide a contact layer (or a *metal contact*), *where a size of the contact layer is less than the size of the light output surface* as recited in independent claims 14 and 35.

Claims 5 and 37 depend from independent claims 14 and 35 and are believed to be allowable for the reasons given above with respect to claims 14 and 35 and for the additional patentable features recited therein.

Accordingly, Applicants respectfully request that the obviousness rejection of claims 5, 14, 35 and 37 be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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